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ABSTRACT

This document contains a number of models that describes how a museum can act as a communications device to the public. The argument is made that a one-dimensional model is no longer sufficient to explain the communication between museum and visitor. The focus is on a model that provides what the visitor desires and needs in exhibits, tours, movies, and multi-media programming; allows visitor response to guide exhibit and program development; and assumes that a comprehensive view of exhibit communication is required to send messages effectively. Factors to be considered in creating effective communication include the visitor's ability to understand the exhibit, the ability of the media to accurately portray the message, and the appropriateness of the exhibition media. The conclusion is that without a positive response from the visitor and thoughtful application of evaluation feedback, museums will wither and die from lack of use. (Contains 12 references.) (DDR)

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The Museum as a Communication System: A Review and Synthesis

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The Museum as a Communication System: A Review and Synthesis

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Introduction

There are many roles of the museum and while one may debate how important its role of communicator to the public is, communication with the public is a characteristic of museums. The more effective a museum is in communicating with the public, the more effective it will be in promoting its mission. An additional indirect (and frequently overlooked) benefit of being a successful communicator is that due to positive public response the museum will experience increased revenues from public and private sources. Finances cannot be the overriding concern in a museum' s administration but they play a major role in the ability of the museum to carry out its goals. A museum would cease to be a museum if it had to close its doors forever due to lack of finances and/or public interest.

Many museum professionals have written about the process of communication and its application to museology. For those readers who desire a historical recap of the events in the history of communication study, in general, and the study of communication in museums, specifically, an ideal place to start is the References section following this paper. The purpose of this paper is to review the major models of the museum as a communication system, briefly analyze their key points, and produce, through synthesis, a comprehensive model of the communication that takes place within museums.

The purpose of creating models is to focus attention on the critical components in a system as an aid to understanding and improving the system. Over the last three decades various models have been created to try to capture what goes on in a museum between the museum staff and the visitor. There are two major categories of communication in the museum; non-exhibition communication and exhibition-related communication. There is important communication

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between the non-exhibition staff and the visitor; from the architect who designs a museum to the housekeeping, sales, education, and security staff members. There may be subtle (or not so subtle) verbal and non-verbal communications to the visitor outside of the exhibition media. The messages conveyed might make a visitor feel more comfortable and want to return or they may make the visitor feel unwelcome and out of place. The models considered in this paper will consider the communication via the exhibit only.

The focus of museum communication models has shifted over the last three decades from the visitor (De Borhegyi 1963), to the exhibit (Cameron 1968), to the exhibitor (Knez and Wright 1970), to creating or enhancing personal meaning for the visitor (Miles 1989 and Hooper Greenhill 1991). The author of this paper concludes that all of the foci; visitor, exhibit, exhbition team, and personal meaning are important but that they should be considered by museum professionals in an effort to effect the ulimate focus of museum communication, the visitor's response. A positive visitor response results in more visitors and consequently in more people being exposed to the museum's communication. It seems simplistic to state, but without a target for a communication museum professionals are just talking to themselves or at the very best, preaching to the choir.

Three Decades of Museum Communication Models

De Borhegyi's "Visual" Communication Model (1963)

De Borhegyi (1963) concentrates his model of "visual" communication on the visitor (Figure 1). He notes that it is the curator's responsibility to "...capture their [the visitor's] interest... if he wishes to communicate to them." In De Borhegyi's model the visitor is affected by effective and dramatic labels, lighting, tactile applications, sound, topical programming, use of space, and motivational exhibits, which comprise what De Borhegyi terms "the museum interpretation program." De Borhegyi's thesis is that the components of the museum exhibit are the entry points to the exhibit and that they are what the visitor responds to.

While the nature and identity of the majority of the components of De Borhegyi's model are obvious to most readers, a brief explication of his concepts of "effective motivation exhibits" and "effective topical exhibit programming" may be instructive. "Effective motivation exhibits" refers to exhibits that "make[s] people think." De Borhegyi's concept of thinking involves critical reasoning to take the visitor from the obvious to the abstract. His example is the introduction of the horse to Native Americans and its effect on their lifestyles as an analogy of the introduction of the automobile on Americans and the concomitant change in their lifestyles. Further De Borhegyian extrapolation would lead one to think of the changes in lifeways that the automobile has brought about in traditional Native Americans. De Borhegyi's concept of "topical exhibit programming" relates to the museum's ability to "convey ideas and news events". He suggests that museums can be used as encyclopedias to present topics of current interest in an unbiased manner. The idea of topical programming is to stimulate interest in areas of current events which

will develop a desire in the visitor for a more in-depth study.

De Borhegyi's model is an excellent beginning for a study of the communication between the visitor and the exhibition staff. De Borhegyi states that "[n]o matter how artistic the layout, how scrupulously accurate the scientific label, if the exhibit does not attract the interest or reach the intellect of the average museum visitor, it is simply wasted time, money, and effort." De Borhegyi's model places the visitor, where they belong, at the focal point of the exhibit communication effort.

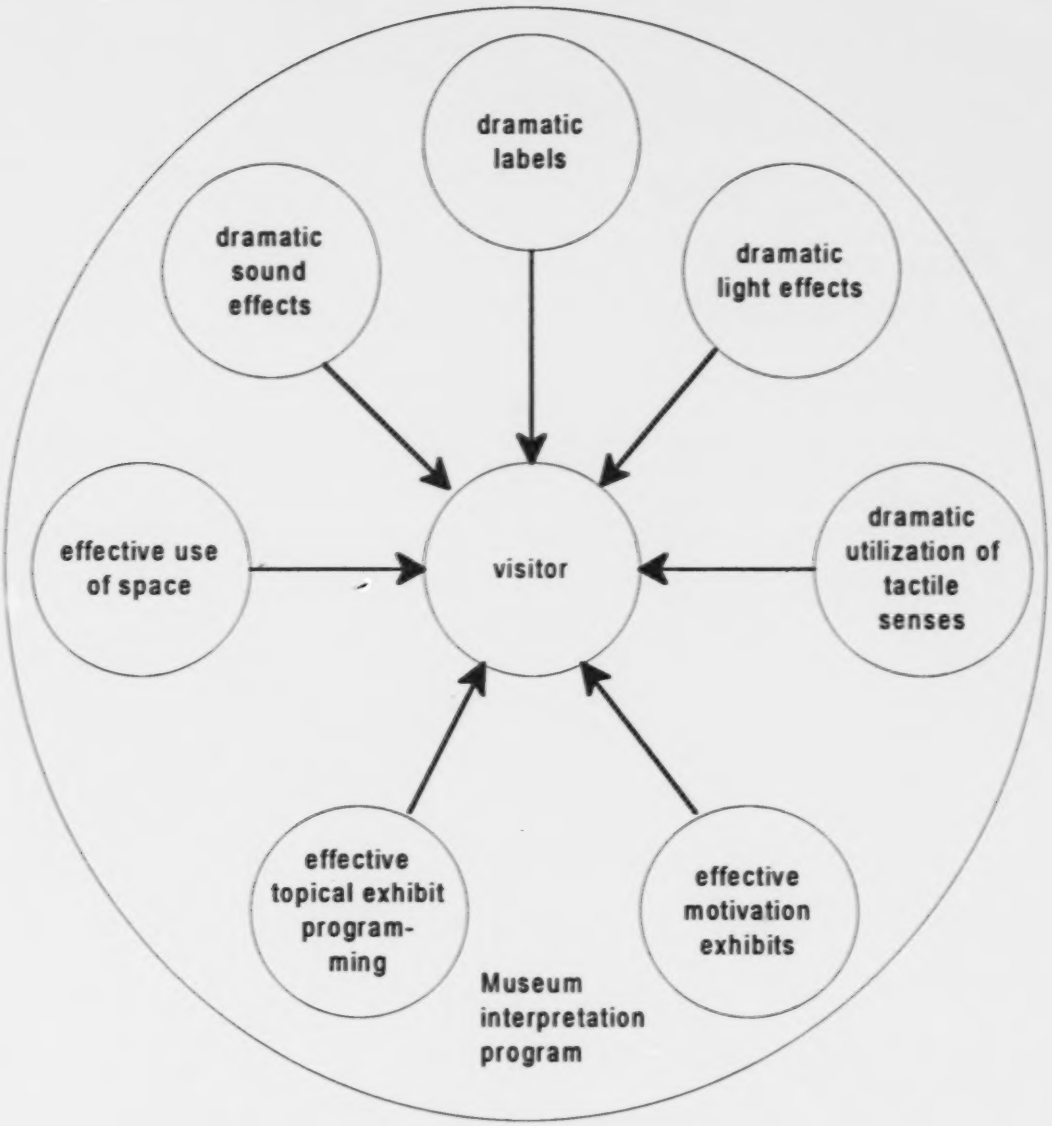

Figure 1. De Borhegyi's Communication Model (1963)

Parker's "Museum as a Communication System" (1963)

Parker (1963) takes a theoretical cognitive approach to the concept of the museum as communicator. Parker's model (Figure 2) is based on the concept of organizational structure, that of the object or concept exhibited and that which the visitor brings with them. Parker's model centers on the intersection of the object's or concept's intrinsic structure ("all things implicit at all times") and the visitor's ability to perceive that organization through their five senses and incorporate it into their "knowledge of the structure of the world." Parker believes that the object/concept has its own organization and that the organization is accessed via the visitor's overlap of knowledge shared by the visitor and the object . Through the visitor's organization of their world, a meaning of the object or concept is conceptualized. The construed meaning is compared to the visitors existing cognitive framework and incorporated, discarded, or modified. Parker tells us that "...any technique of communication restructures the mind that uses it." He goes on to say that "[t]his ability to abstract and formulate systems of thought has led to a concern with the sending apparatus of a communications system at the expense of the receiving apparatus (the audience)...." Museum communicators need to take into account the knowledge that the visitor brings with them and, most importantly, the needs of the visitor- not the needs as perceived by the exhibitor. Visitor needs are best determined by an objective appraisal of their knowledge of the structure of the concept or object being exhibited. Parker goes on to discuss the linear versus non-linear mode of communication and while his comments are not illustrated in his model they are important to understanding museum visitor reading behavior.

Reading a novel is an example of linear communication. Novel reading proceeds from front to back and left to right. When reading a cereal box one searches for specific information by

scanning headings. In a museum visitors do not read all the text presented as it is presented but prefer to read text to answer the questions they have as a result of the objects/concepts they encounter (MacManus 1989). Parker did not elaborate on the linear versus non-linear locus of visitor attention but in the visual world we occupy one cannot discount its importance. Visitors typically read from left to right and scan pictures in a clockwise fashion but their eyes are drawn to the visually attractive points in pictures, texts, and exhibits. Visitors are highly sophisticated (frequently goal-oriented) readers who use multiple strategies to understand an exhibit. Understanding their reading techniques is a prerequisite to communicating effectively in the museum.

Parker describes the "disorientation of the mind" by which he means the visitor's inability to perceive the exhibit due to their lack of innate cognitive structure. Exhibit designers need to include the capacity of the visitor in their designs. Parker also mentions that the "sense ratios", the visitor's cultural biases, be taken into consideration at the beginning of the exhibit creation process. Three factors are dominant in Parker's conception of exhibit design; the organization or "language of the object/concept itself, the organization of the visitors mind, and the visitors cultural orientation which is part of the visitor's cognitive orientation.

Twice Parker suggests that the public be a part of the design of an exhibit. His model indicates that the public be a necessary part of he design as their cognitive ability is directly related to the communication and assimilation of the exhibits content. Building on De Borhegyi's concept of the visitor as the focus of the exhibit is the need to consider the visitors cognitive structures in the overall exhibit design. Parker shows us that building on the visitor's current personal structure of

the universe widens the overlap, in his model, between the visitor and the exhibit. It is within this overlap where communication takes place

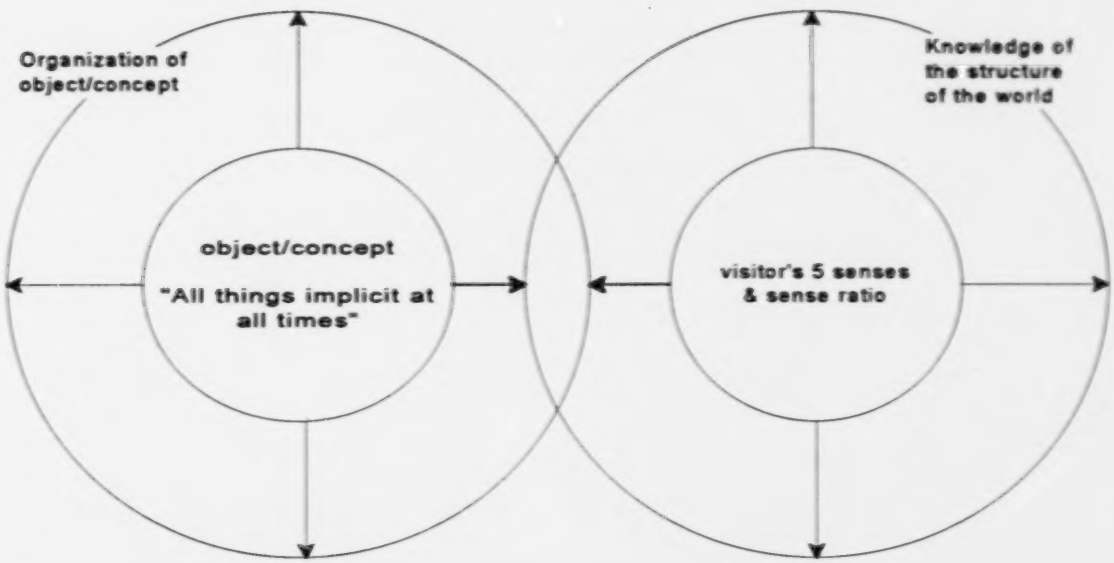
Organization of object/concept
object/concept
"All things implicit at all times"
visitor's 5 senses & sense ratio
Knowledge of the structure of the world

Figure 2. Parker's Museum as Communication System (1963)

Cameron's "Museum as a Communications System" (1968)

Cameron's model (1968) centers on the exhibit (Figure 3). In De Borghegyi's model the visitor was the target of the "museum interpretation program." Parker's identifies the object/concept and the visitor are the main components of communication process. Cameron offers a different view point with his model. In Cameron's model the exhibit is the focus of communication with the exhibitor interpreting and the visitor forming meaningful concepts. The exhibitor decides on the message and the visitor, using the "language of objects" and "observable phenomena" extracts meaning into a usable concept. In Cameron's conception the object, artifact or kinetifact (a concept such as the movement of a pendulum) creates the exhibit via its being in the exhibition environment (artifact/kinetifact, label, and interpretive setting) which provides the means for communication. Cameron's exhibition environment takes into account the key components of DeBorhegyi's "museum interpretation program." Impacting the effect of the exhibit in Cameron's model is the image (sound, visual, and tactile) of the artifact/kinetifact in its interpretive setting. Cameron expresses the need of the exhibition environment to reduce "noise" or "interference in the transmission of the message." "Noise" in museum labels can entail too much text, text that is too small, poor layout and design. Noise in the exhibit can derive from crowded artifacts, poor object placement, insufficient lighting etc..

The two new components in Cameron's model are the organization of a meaningful concept, which is only possible through Parker's "Knowledge of the Structure of the World", and feedback. It is conceivable that a new concept can be assimilated by a visitor, as we are all blank slates at some point, but it is more likely that a new concept or interpretation will be concatenated to

something we already know- or think we know. Organization of new knowledge is a skill that can be facilitated by creating exhibits that build on what visitors know. Cameron notes that the visitor provides feedback by returning to the object/kinetifact and this feedback in return is responded to by the exhibitor. Of course, feedback to the exhibitor is not a given unless the exhibitor conducts an evaluation.

Cameron's model explicitly states the importance of the important three partners in the museum communication equation; exhibitor (or exhibition team), the exhibit environment, and the visitor. Good exhibit communication leverages two characteristics of a visitor, their desire to create meaning and their ability to provide feedback.

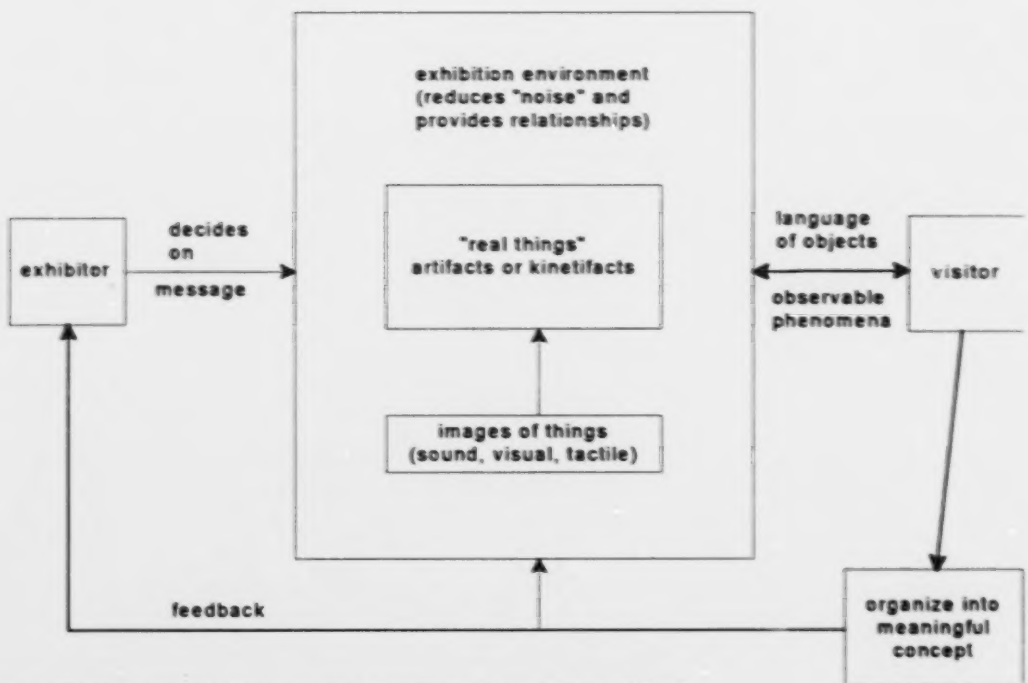

Figure 3. Cameron's model- Museum as a Communication System (1968)

Knez and Wright's "Museum as a Communications System" (1970)

The Knez and Wright model of museum communication (1970) identifies the exhibitor as a tool-user (Figure 4). Diagrams, maps, photos, objects, message impact, and design skills are the tools afforded to Knez and Wright's exhibitor. The exhibitor use the tools to "develop a relationship to the museum object" through "verbal discourse and content information." The visitor, in response to their need for information, instruction, or entertainment creates a "meaning" for the exhibit contents. Knez and Wright model present a model of one-way communication from the exhibitor to the visitor.

Knez and Wright are the first to include the actual science or data that the exhibit is based on. The science surrounding the object, whether it be a, specimen (including art works) or concept is a key component of its interpretation. Knez and Wright point out that the encoding of the exhibit is a function of the exhibitors' ability to develop a museum-based relationship to the object. They differ in their interpretational strategy from Parker and Cameron in that the interpretation depends more on the label than on the inherent properties of the object itself. Knez and Wright believe that the interpretation (audio, textual, visual, [textual - added by the author]) is essential to creating a meaning for an object/concept.

Factors identified by Knez and Wright that determine the effectiveness of the exhibit are the quality of the graphic design, the veracity of the data the exhibit is designed around, the objects chosen for exhibition, and the message's impact on the visitor. The visitor becomes an active participant in the museum communication.

Cameron's model and the model of Knez and Wright have meaning as an integral part of the museum communication system. Deriving a meaning from a museum communication becomes an essential component in virtually all future communication models.

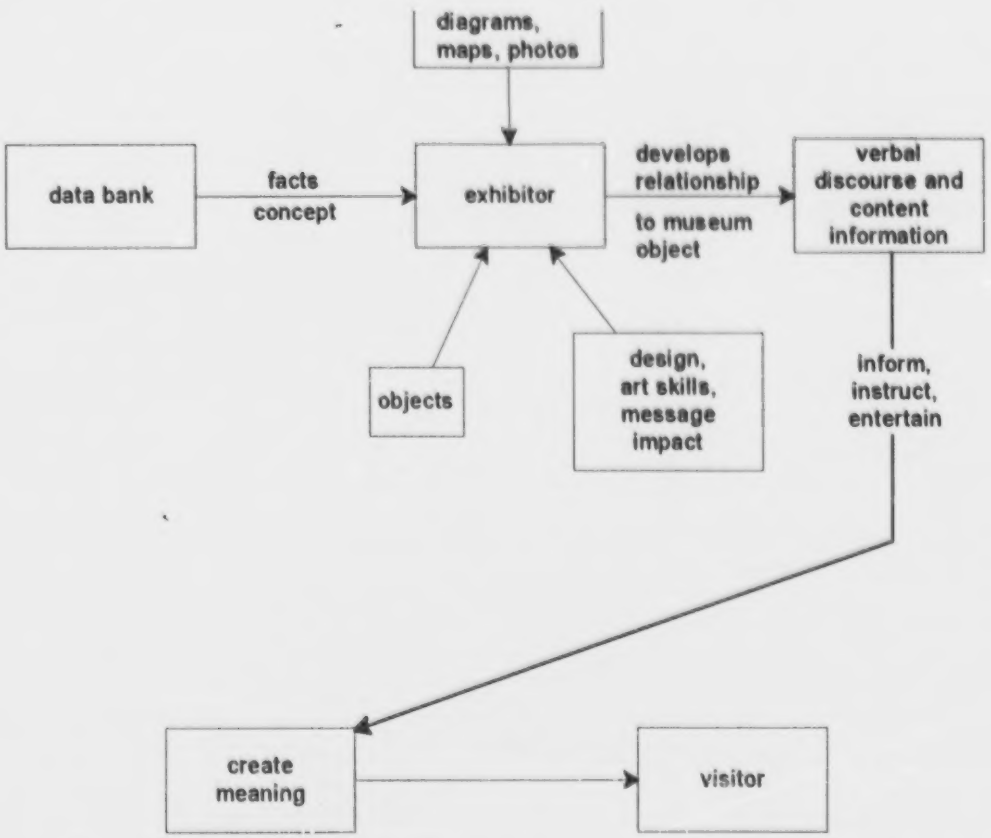

Figure 4. Knez & Wright's communication model for science, natural history, & history museums (1970

Miles' Model of Communication in the Museum (1989)

Miles (1989), in response to Cameron's paper (and Knez and Wright, though they are not acknowledged), postulated a new communication model that centered on three of Knez and Wright's components; the visitor, the scientist or exhibitor, and the personal meaning created by the visitor. Miles' model (Figure 5) takes into account the visitors needs; information, social, and entertainment (which builds on Knez and Wright's inform, instruct, and entertain) and it also considers the demands on the exhibitor; visitor needs, visitor intellectual level (Parker's organization and structure concepts), quantity of information provided, cost, application of appropriate media, and approval of peers.

Miles introduces the concepts of encoding and decoding to exhibit communication study. Typically, encoding is the process the exhibitor undertakes in deciding what will be presented in an exhibit. The visitor decodes the message in order to process or assimilate the communication. Miles presents a slightly different process. Miles states that the decoding process requires a selection from the available set of content (the exhibit) and that in creating meaning the visitor encodes the "lesson learned" to fit their experience (a la Parker). The key differences between Miles' use of encoding and decoding and the traditional definition is that Miles has the visitor do the decoding and encoding. Rather than encode, Miles' exhibitor "constructs" the exhibit. His point is well taken that after decoding the visitor does some fitting (encoding) of the new information to fit it into their existing cognitive framework. Miles model creates a triad of visitors, exhibitor, and meaning adding detail to the models of his predecessors.

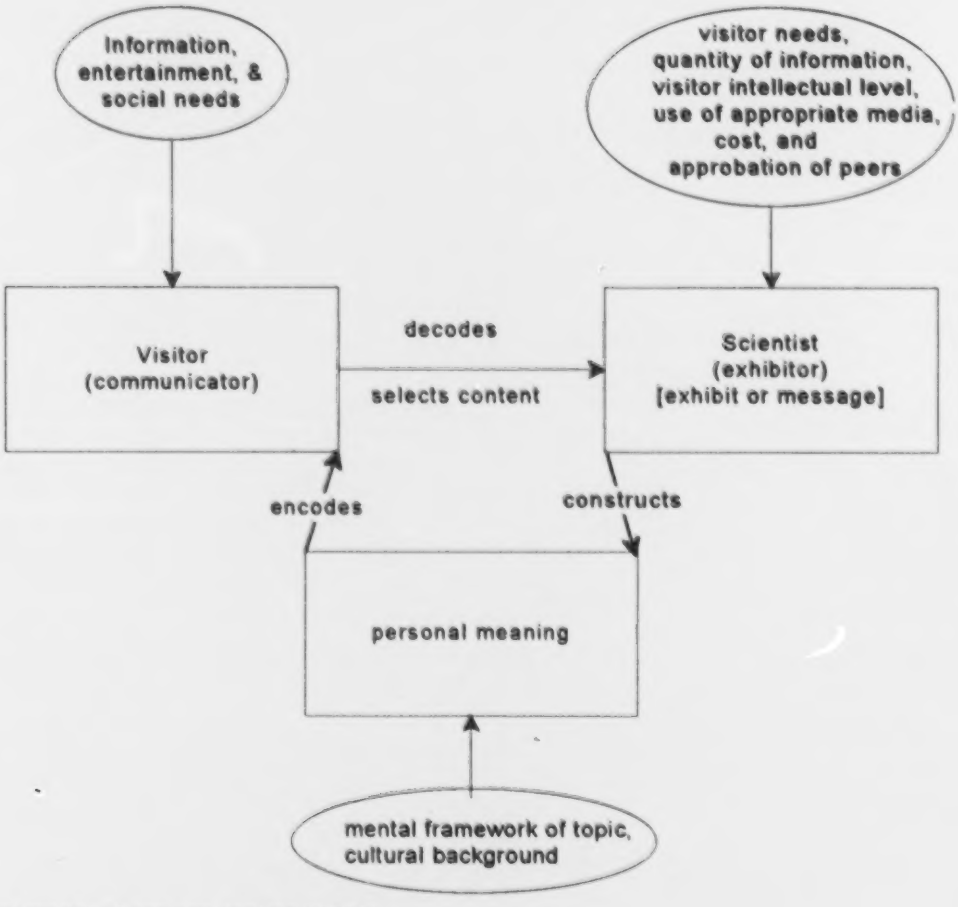
Information, entertainment, & social needs
visitor needs, quantity of information, visitor intellectual level, use of appropriate media, cost, and approbation of peers
Visitor (communicator)
decodes
selects content
Scientist (exhibitor) [exhibit or message]
encodes
constructs
personal meaning
mental framework of topic, cultural background

Figure 5. Miles' model of communication (1989)

MacManus' Modified "Process Model of Communication"

MacManus adopts a model (Figure 6) from Sless (MacManus 1991 citing Sless) in which she adds two components. MacManus refers to the "character of the visitor" or the visitor's capacity to understand and assimilate the exhibits content (previously discussed in Parker's and Miles' models) and feedback from "visitor reading behavior studies" for use in construction of the exhibit text. Cameron described feedback from the visitor as reading behavior evaluation and an evaluation of the visitor's general response to an exhibit. In light of MacManus's research on visitor interaction with museum exhibits (MacManus 1989) it would seem necessary to modify her model to include a double-headed arrow between the "audience/message relation" box and the box labeled "transaction." An appropriately modified model is presented as Figure 7. MacManus' model does not provide any new components in the museum communication equation but her research into visitor/exhibit interaction is extremely important because it illuminates the interactive nature of visitor/exhibit communication.

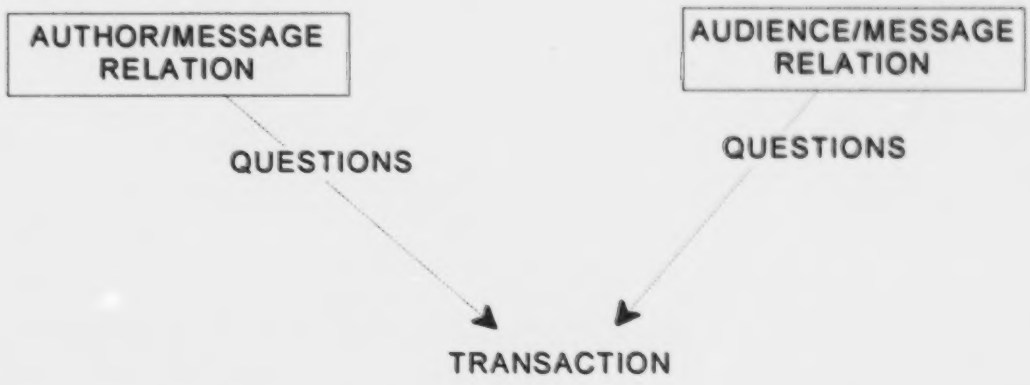

Figure 6. The process model of communication. MacManus after Sless

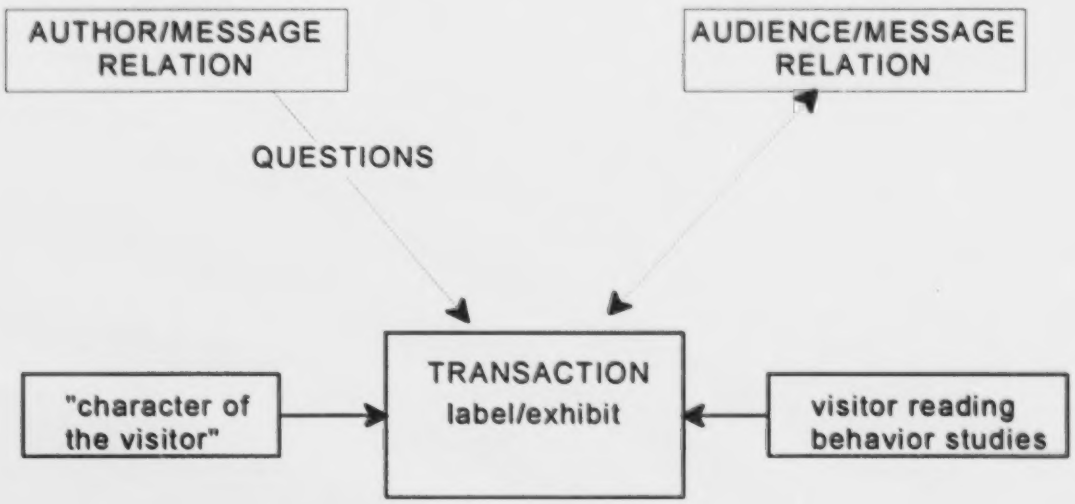

Figure 7. Modified process model of communication. Whittle after MacManus

Hooper-Greenhill's "New Communication Model for Museums" (1991)

Hooper-Greenhill (1991) constructed a model of museum communication that deconstructs all previous models in that it makes the exhibitors (team of communicators), the meaning (of the exhibit), and the visitor (active meaning makers) the complete museum communication system (Figure 8). She does not include the exhibition environment, the visitor's cognitive framework, visitor needs, visitor perceptive skills, the object or concept being exhibited, or any interactive give-and-take between the visitor and exhibit. Hooper-Greenhill's model shows the meanings and media of an exhibit as the convergence point of the communicators and the visitors (meaning makers).

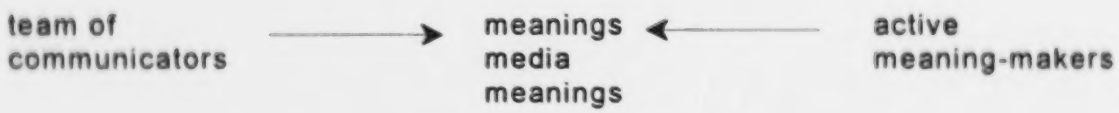

Figure 8. A new communication model for museums (Hooper-Greenhill 1991

While Hooper-Greenhill's model) is an elegant model of museum communication it does not specifically address many of the variables in effective museum communication. A model should clearly define the processes, concepts, relationships, factors, and components involved. None of the previous models described considered fully identifies all of the aspects of exhibit-related communication in the museum.

Toward the 21st Century: A Comprehensive Model of Exhibit Communication (CMEC)

A new model of exhibit communication is presented which includes the significant features of the previous models of museum communication. A comprehensive model of exhibit communication will make the visitor the focal point, as does De Borhegyi's; it will take into account the inherent properties of an object/concept and cognitive structure of the visitor (per Parker); it will provide meaning or an opportunity to create meaning (Cameron and others); it will accurately represent the current scientific thought and state-of-art in exhibit in graphic communication (Knez and Wright); it will fulfill all the needs of the visitor as well as those of the exhibit designers (Miles);and it will evoke a response proportional to the meaning that it has for the visitor. A positive response from the visitor will encourage them to continue visiting and through word-of-mouth, encourage others to also visit the museum.

Components and Relationships in the Model

Response

In the "Comprehensive Model of Exhibit Communication" (Figure 9) the visitor's response is central, graphically and philosophically. If visitors do not return to a museum or disparage others from visiting it the museum becomes increasingly underutilized. A positive response encourages the visitor to return attention to the exhibit for more information, to continue through the museum, or return another day. A negative response may prompt the visitor to exit the museum and discourage others from visiting.

Current Knowledge of the Object or Concept Exhibited

"Current Knowledge" and the "Object/Concept" constantly modify each other via new research. The changing nature of what we know is part of the challenge facing exhibit designers. The exhibit designers initially select the subject of the message from the set of all knowledge. They determine what the content of the message will be, and then interpret the message through the exhibition media. The media may not have ability to convey all the nuances of the communication. For example, exhibit technology cannot convey all the sensory stimuli that are present in an ecosystem that a particular diorama represents.

Making Meaning

Visitors try to comprehend the exhibit by integrating the exhibits "meaning" within their cognitive frameworks. The visitor can understand the communication, partially or completely assimilating it or they may become frustrated, distrustful of the veracity of the information, and totally disregard the message. The ease with which a visitor makes sense out of an exhibit will relate to how positive or negative a response the visitor has.

More on Response

The visitors "Response" is the behavior evoked by the exhibit communication. The response can be a desire for more information from the exhibit, a satiation of need (information, instruction, entertainment, etc.) from the exhibit, or communication about the exhibit with other visitors. Negative visitor responses affect the number of new visitors encouraged to see the exhibit, "Others motivated to visit [the] exhibit." The visitor's ultimate response is to leave the exhibit. Depending upon how effective the communication was and how the visitor has budgeted their

time, the visitor has the option of continuing through the museum, exiting, or attending to bodily functions.

The visitor's response can have direct influence on the exhibition team "Exhibit Designers" through evaluation programs. The exhibit designers can use the feedback from evaluations to modify their message if the funding and technology are available. The results of the evaluation should also be incorporated in any future designs.

The visitor's response drives the exhibition communication process. A visitor's response is a result of the their ability and desire to comprehend or assimilate the exhibits content by creating a relationship between their world and the "world" represented by the exhibit. Visitors who have a positive response will encourage others to visit the exhibit/museum. Evaluating the visitors response to improve exhibit quality and effectiveness closes the communication loop between the visitor and the exhibit designers. The evaluation process must provide accurate and complete feedback about the visitors experience in using the exhibit to create meaning. Exhibitors must use the feedback when they plan or reformulate messages.

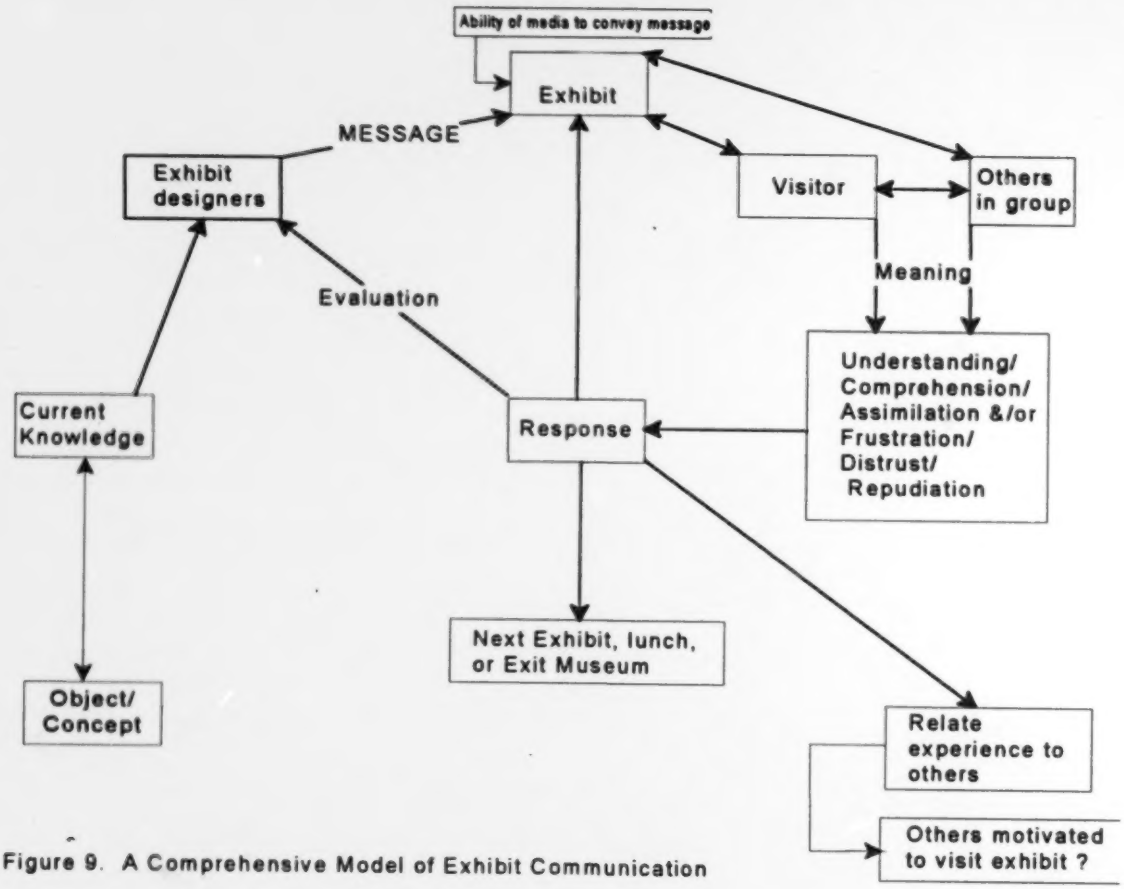

Figure 9. A Comprehensive Model of Exhibit Communication

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Conclusion

A new paradigm is in order which comprehensively describes the exhibit communication system. A one-dimensional model is no longer sufficient for to explain the communication between museum and visitor. Communication in the museum resembles a web with give and take from both key parties, the visitor and the exhibition team. The central focus of exhibit communication should be the visitor's response to the museum's offerings. Regardless of whether those offerings are exhibits, tours, movies and multi-media programming, or any other kind of museum programming. the museum exhibition program should provide what the visitor desires and needs. Research must be conducted on the potential visitors knowledge of a subject before the exhibit content is realized. The visitor's response (or potential response) should guide exhibit and program development for it is the visitor that is the potential consumer of the communication. Factors to be considered in creating an effective communication include: the visitor's(s') ability to understand the exhibit, the visitor's(s') cultural approach to the exhibit, the ability of the medium(ia) to accurately portray the message (without unnecessary exhibit noise), and the appropriateness of the object/concept in the exhibition medium(ia). Only with a comprehensive view of exhibit communication is it possible to send messages effectively. Effective communication is the key to generating a positive response to exhibit communications. Without a positive response from the visitor and thoughtful application of evaluation feedback, museums will wither and die from disuse.

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